OK to D4133 Rev A 10.09.29

Work Order ID 62155

PRELIMINARY ISSUE

Monday, September 20, 2010 8:26:54 AM

Item ID: D4133-041 **Accept** **Setup Start** **Stop**

Revision ID:

Item Name: Wearplate, Mid

Start Date: 9/17/2010 **Start Qty:** 4.00 **Cust Item ID:**

Required Date: 9/24/2010 **Req'd Qty:** 4.00 **Customer:**

Reference:

Approvals: **Process Plan:** P **Date:** 10-9-21 **Tooling:** **Date:** **Run Start** **Stop**

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D4133	pb1								
100	FLOW WATER JET	0.00							
Waterjet	**Memo**	0.00				1B 10-9-21			
FLOW CNC Waterjet	1-Cut as per Dwg D4133 Dwg Rev: pb1 Prog Rev: pb1 2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
QC	**Memo**	0.00				1B 10-9-21			
Quality Control									
120	QC8- Inspect parts - second check	0.00 — inspectors to PB1							
QC	**Memo**	0.00 Day only Sicka/02							
Quality Control									

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Work Order ID 62155

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Revision ID:

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Required Date: 9/24/2010 **Req'd Qty:** 4.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Form as per dwg	0.00							
Brake NC	NC BRAKE					4			
Brake NC	**Memo** 8326 8161	0.00							
	1- Form using DT____ Die as per Dwg D4133								
140	QC5- Inspect part completeness to step on W/O	0.00							
QC									
Quality Control	**Memo**	0.00							
150	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
Powdercoat	M112588								
Powder Coating	**Memo**	0.00							
	START TIME: 10:40								
	OVEN TEMPERATURE: 320°								
	FINISH TIME: 11:10								

SB 10/09/24

10/09/27 4

10-9-27.

4 ø

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Work Order ID 62155

Monday, September 20, 2010 8:26:54 AM

Item ID: D4133-041 **Accept** **Setup Start**

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Required Date: 9/24/2010 **Req'd Qty:** 4.00 **Customer:**

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00				4	Ø		
QC	Memo	0.00							
Quality Control									
170		0.00							
Small Fab	Memo	0.00							
Small Fab	1- Bond D4133-3 gasket to inner surface of wearplate using a thin layer of 3M 1300/1300L scotch grip adhesive Batch: M115230								
180	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

27 10/09/22

10/09/28

10-09-28

POSITIVE RECALL

EFFECTIVE 10-09-22 AUTH

RELEASED DATE 10.09.29

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Work Order ID 62155

Monday, September 20, 2010 8:26:54 AM

Item ID: D4133-041 **Accept** **Setup Start**

Revision ID: **Stop**

Item Name: Wearplate, Mid

Start Date: 9/17/2010 **Start Qty:** 4.00 **Cust Item ID:**

Required Date: 9/24/2010 **Req'd Qty:** 4.00 **Customer:**

Reference:

Run Start

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Stop**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Identify as per dwg & Stock Location: D2nS	0.00	10-09-29						
Packaging	Packaging					10-09-29			
Packaging	**Memo**	0.00							
Packaging									
200	QC21- Final Inspection - Work Order Release	0.00							
QC						10/09/29			
Quality Control	**Memo**	0.00							

10-09-29

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Picklist Print

Monday, September 20, 2010 8:26:59 AM

Work Order ID: 62155

Parent Item: D4133-041

Parent Item Name: Wearplate, Mid

Start Date: 9/17/2010 **Required Date:** 9/24/2010

Start Qty: 4.00 **Required Qty:** 4.00

Comments: IPP Rev:A 10.06.24 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S18GA 304/316 .050 Sheet		Purchased	No			100	sf	148.0479	2.735	11.51579		14. 10-9-21	
				Location		Loc Qty		Loc Code					
				MAT20		148.0479							
					111743	7.36							
					112885	18.5179							
					113062	58.17							
					115389	64				115389			
D4133-3 Gasket		Manufactured	No			200	Each	0.0000	1	4		10/09/28	

362156 (4x)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

DART AEROSPACE LTD	Work Order:	62158
Description:	Part Number:	D4133-041
Inspection Dwg: D4133- Rev: pb1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø .203	+.005 -.001	.207	*		V HB02	
.490	+/- .010	.490	*		V	
.97	+/- .030	.970	*		V	
2.89	+/- .030	2.882	*		V	
4.80	+/- .030	4.793	*		V	
5.77	+/- .030	5.766	*		V	
5.280	+/- .010	5.285	*		V	
.450	+/- .010	.455	*		V	
.300	+/- .010	.304	*		V	
.375	+/- .010	.375	*		V	
3.875	+/- .010	3.871	*		V	
6.48	+/- .030	6.474	*		V	
9.075	+/- .010	9.077	*		VPRO 02 B	
14.225	+/- .010	14.225	*		T	
19.225	+/- .010	19.228	*		T	
24.225	+/- .010	24.225	*		T	
26.61	+/- .030	26.61	*		T	
29.002	+/- .010	29.000	*		T	
34.225	+/- .010	34.225	*		T	
37.725	+/- .010	37.725	*		T	
42.948	+/- .010	42.948	*		T	
45.34	+/- .030	45.34	*		T	
52.725	+/- .010	52.725	*		T	

Measured by:	IB	Audited by:	S	Prototype Approval:	N/A
Date:	10-9-21	Date:	10/09/22	Date:	N/A

inspected to PB1 Dyenfy

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

DART AEROSPACE LTD	Work Order:	67155
Description: WEAR PLATE MID	Part Number:	D4133041
Inspection Dwg: D4133-1 Rev: pb1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
57.725	+/- .010	57.725	X		T HB01	
62.875	+/- .010	62.875	X		T	
65.48	+/- .030	65.48	X		T	
68.075	+/- .010	68.075	X		T	
71.575	+/- .010	71.575	X		T	
71.95	+/- .030	71.95	X		T	
.050	+/- .010	.046	X		T	

Measured by:	IB
Date:	10-9-21

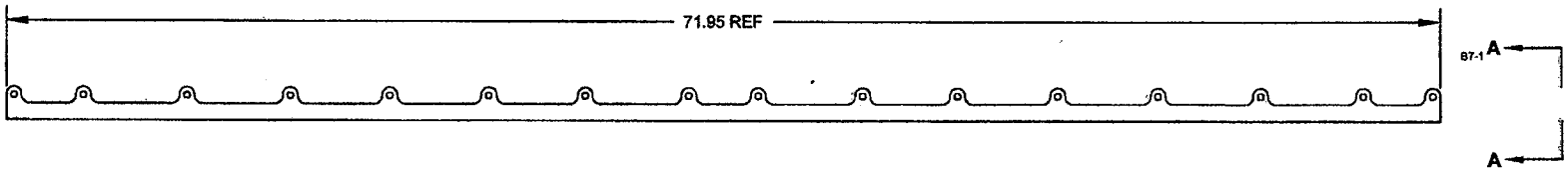
Audited by:	S
Date:	10/21/22

Inspector to PB1 only

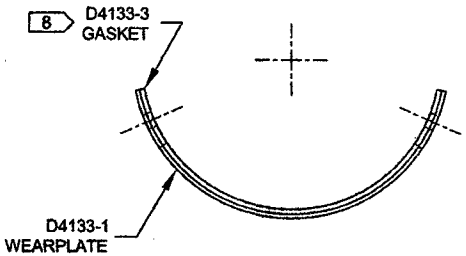
Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

QTY -041	PART NUMBER	DESCRIPTION
X	D4133-041	WEARPLATE, MID
1	D4133-1	WEARPLATE
1	D4133-3	GASKET
A/R	1300 / 1300L	3M SCOTCH-GRIP ADHESIVE



D4133-041 WEARPLATE, MID



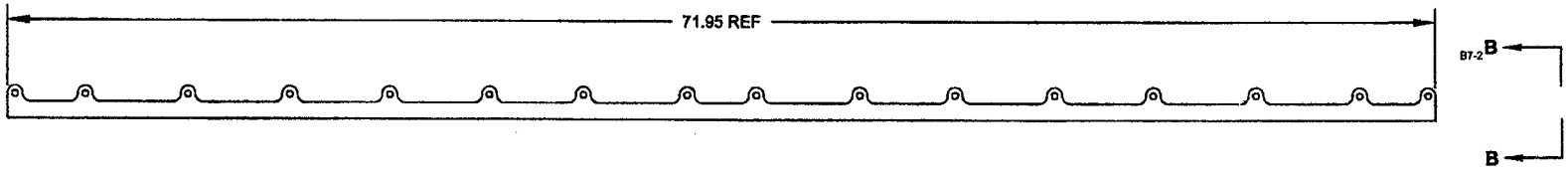
C1-1 **VIEW A-A**
SCALE 4X

PRELIMINARY ISSUE

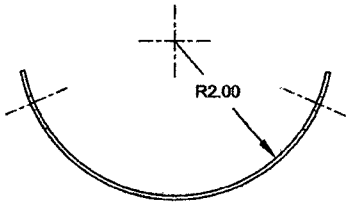
NOTES:
1) MATERIAL: N/A
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4133-041" USING YELLOW PAINT MARKER ON INSIDE SURFACE
7) WEIGHT: 4.9 lbs
8) BOND D4133-3 GASKET TO INNER SURFACE OF WEARPLATE USING A THIN LAYER OF 3M 1300/1300L SCOTCH GRIP ADHESIVE

REV.	DESCRIPTION	BY	DATE
B	0.450 WAS 0.300	CP	10.09.15
A	NEW ISSUE	CP	10.06.15

DESIGN	CP	DART AEROSPACE USA, INC PORT HADLOCK, WA
DRAWN	CP	
CHECKED		DRAWING NO. D4133 — REV. B — SHEET 1 OF 4
MFG. APPR.		
APPROVED		TITLE: WEARPLATE, MID — SCALE: NTS
DE APPR.		
DATE	10.09.15	



D4133-1 WEARPLATE

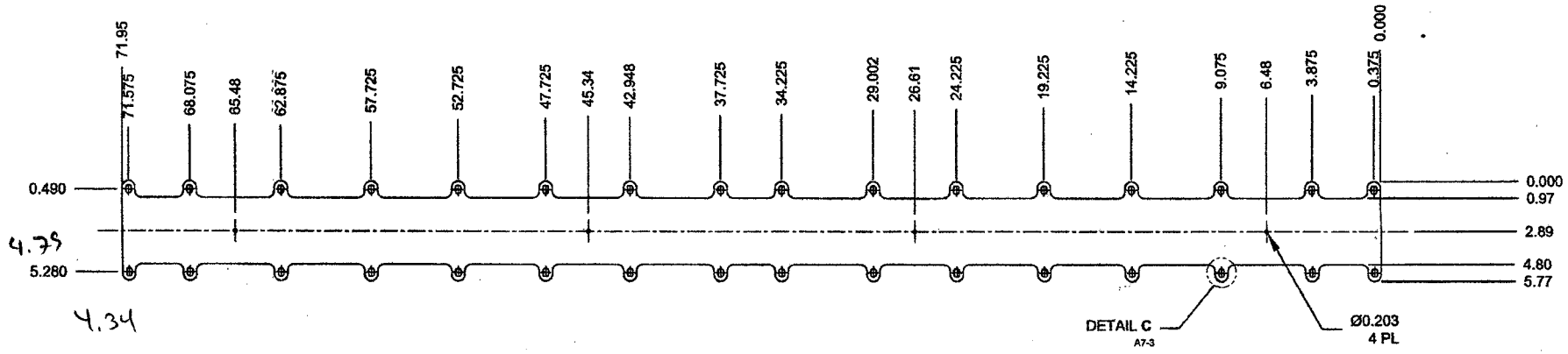


C1-2 **VIEW B-B**
SCALE 4X

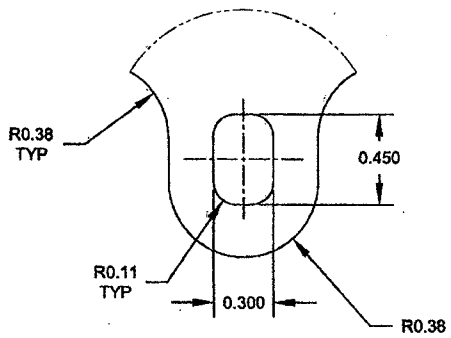
PRELIMINARY ISSUE

NOTES:
1) MATERIAL: MAKE FROM D4133-1F
2) FINISH: POWDER COAT "GREY SANDTEX" (4.3.5.6) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010
6) IDENTIFICATION: NONE
7) WEIGHT: 4.0 lbs

DESIGN		**DART AEROSPACE USA, INC** PORT HADLOCK, WA	
DRAWN			
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D4133	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE, MID	NTS
DATE	10.09.15		



D4133-1F FLAT PATTERN



DETAIL C C3-3
SCALE 10X

PRELIMINARY ISSUE 10.05.15

NOTES:

1) MATERIAL: AISI 304/316 STAINLESS STEEL PER AMS 5513 OR AMS 5524 OR ASTM A240, 18 GAUGE (0.050 THICK)
REF DART SPEC M304S18GA
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010
6) IDENTIFICATION: NONE
7) WEIGHT: 4.0 lbs

DESIGN		DART AEROSPACE USA, INC	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. B PBI
MFG. APPR.		D4133	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE, MID	NTS
DATE	10.09.15		

Dart Aerospace Ltd

W/O: 62155		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10.09.29	100	Acceptable to D4133 Rev.A REF ATTACHED EMAIL	GP	10.09.29		GP 10.09.29 QS1642	

Part No: D4133-041 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\FORMS\Quality Assurance\approved QA\NCRWO RevE

Chris Provencal

From: David Shepherd [dshepherd@dartaero.com]
Sent: September 29, 2010 2:19 PM
To: 'Chris Provencal'
Cc: 'Marc Bellavance'; 'Mike Petsche'; 'Dan Stow'
Subject: RE: Wearplate photos

No ... ship the wearplates.

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Wednesday, September 29, 2010 12:00 PM
To: 'David Shepherd'
Cc: 'Marc Bellavance'; 'Mike Petsche'; 'Dan Stow'
Subject: RE: Wearplate photos

David,

I am signing off the wearplates based on Rev. A of the dwgs, with the deviation that the wearplates are 0.150 wider. Additionally, on the fwd wearplate, one tab is shifted 0.050" aft, and another tab is shifted .150" aft. This is a minor, non-structural, change to improve fit on the skidtube.

On that basis, do you have any objection to shipping the wearplates today?

-Chris

From: Dan Stow [mailto:dstow@dartaero.com]
Sent: September 29, 2010 12:54 PM
To: 'Mike Petsche'
Cc: 'David Shepherd'; Chris Provencal; 'Marc Bellavance'
Subject: FW: Wearplate photos
Importance: High

Mike,

Can I tell the customer that we are shipping the wearplates today?

Dan

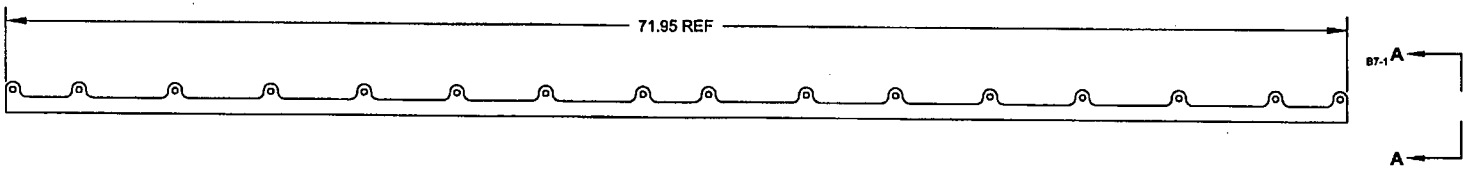
Hello Francesco,

Please see the response from engineering below.

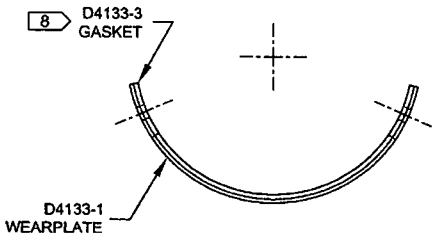
Regards,

Dan Stow
Technical Support
Dart Aerospace Ltd.
dstow@dartaero.com

QTY -041	PART NUMBER	DESCRIPTION
X	D4133-041	WEARPLATE, MID
1	D4133-1	WEARPLATE
1	D4133-3	GASKET
A/R	1300 / 1300L	3M SCOTCH-GRIP ADHESIVE



D4133-041 WEARPLATE, MID



C1-1 **VIEW A-A**
SCALE 4X

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 62155

RELEASED
2010 -06- 28

NOTES:
1) MATERIAL: N/A
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4133-041" USING YELLOW PAINT MARKER ON INSIDE SURFACE
7) WEIGHT: 4.9 lbs
8) BOND D4133-3 GASKET TO INNER SURFACE OF WEARPLATE USING A THIN LAYER OF 3M 1300/1300L SCOTCH GRIP ADHESIVE

REV.	DESCRIPTION	BY	DATE
A	NEW ISSUE	CP	10.06.15

DESIGN		DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN			
CHECKED		DRAWING NO. D4133	REV. A SHEET 1 OF 4
MFG. APPR.			
APPROVED		TITLE WEARPLATE, MID	SCALE NTS
DE APPR.			
DATE	10.06.15		